CHICAGO Electric® Generators

GENERATOR SET
16 HP - 7000/7500 WATTS
Model 95960

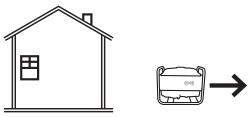
SET UP, OPERATING, AND SERVICING INSTRUCTIONS

⚠DANGER

Using a generator indoors CAN KILL YOU IN MINUTES.

Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: http://www.harborfreight.com

Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

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For technical questions or replacement parts, please call 1-800-444-3353.

Manual Revised 08i

SPECIFICATIONS

Electrical Requirements	7000 Watts (Rated) / 7500 Watts (Maximum) / 60 Hz / 3600 RPM **Output Receptacles:** 20 A / 120 V~ / 3-Prong / (Qty. 1 Duplex) with a 20 A Circuit Breaker 30 A / 120 V~ / 3-Prong Twist Lock / (Qty. 1) with a 30 A Circuit Breaker 30 A / 240/120 V~ / 4-Blade Twist Lock / (Qty. 1) with two 30 A Circuit Breakers **Input Power:** 12 VDC Battery / 7-1/4" Long x 3" Wide (not included) with an In-Line Circuit Breaker **Voltmeters:** 0 < - > 150 Volts / 50 Volt Marked Increments 0 < - > 300 Volts / 100 Volt Marked Increments w/50 Volt Hash Marks
Engine Specifications	16 HP / 4 Cycle / Air Cooled / Electric & Recoil Start / 3600 RPM 420cc Displacement / 6.6 Gallon Fuel Tank Powered with Mid to High Octane, Unleaded Gasoline Engine Family: 5CSG.41925C **Recommended Oil:** 37 Fluid Ounces SAE 30W (Above 32 Fahrenheit) / SAE 5W-30 (Below 32 Fahrenheit) Recommended Spark Plug Gap: 0.028" ~ 0.031" Estimated Run Time: 8 Hours @ 50% Load Automatic Low Oil Shutdown
Additional Features	Locking ON/OFF with 2 Keys
Overall Dimensions	24-1/8" Long x 20-1/2" Wide x 24-1/2" High
Net Weight	188 Pounds

IMPORTANT! This product requires oil and fuel to be added before starting. Attempting to start the Engine without oil WILL ruin the Engine and void the warranty.

NOTE: The Engine's carburetor may need to be adjusted by a qualified mechanic for efficient high-altitude use.

The emission control system for this Generator's Engine is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (also known as CARB). For warranty information, refer to the last pages of this manual

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Write the product's serial number in the back of the manual near the assembly diagram, or write month and year of purchase if product has no number. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES

⚠WARNING!

READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed. Children should never be allowed in the work area.

PERSONAL SAFETY

1. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
4. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
5. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use And Care

1. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed. Do not force the tool and do not use the tool for a purpose for which it is not intended.

2. **Do not use the power tool if the Engine Switch does not turn it on or off.** Any tool that cannot be controlled with the Engine Switch is dangerous and must be replaced.

3. **Disconnect the Spark Plug Wire from the Engine before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally. **Always disconnect the Spark Plug Wire before performing any inspection, maintenance, or cleaning procedures.**

4. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

5. **Maintain tools with care. Keep the Generator clean.** Properly maintained tools are less likely to malfunction and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.

6. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

7. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.

2. **When servicing a tool, use only identical replacement parts. Follow instructions in the** “Inspection, Maintenance, And Cleaning” **section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.

SPECIFIC SAFETY RULES

1. **IMPORTANT! Your Warranty is voided if:**

You do not put engine oil in the Engine's crankcase prior to its first use. Before each use, check the oil level. Never run the Engine with low or no engine oil. Running the Engine with low or no Engine oil will permanently damage the Engine.

2. **Maintain labels and nameplates on the Generator.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

3. **Maintain a safe working environment.** Make sure there is adequate surrounding workspace.

4. **Avoid unintentional starting.** Make sure you are prepared to begin work before turning on the Generator.

5. **People with pacemakers should consult their physician(s) before use.** Electromagnetic fields in close proximity to a heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near the Engine's magneto or recoil starter.

6. **Never leave the Generator unattended when it is running.** Turn off the Engine of the Generator before leaving the work area.

7. **Always use the Generator on a flat, level surface.**

8. **Make sure to keep hands, fingers, and feet away from all moving parts of the Generator.**

9. **Keep all safety guards of the Generator in place and in proper working order.**

TOXIC FUMES, FIRE, AND EXPLOSION PRECAUTIONS

1. **This Generator is designed for outdoor use only. Do not operate the Generator in a closed area or in a poorly ventilated area. When running, the Engine of this unit produces carbon monoxide, a colorless, odorless, toxic fume that, when inhaled, can cause serious personal injury or death.** Whenever possible, use a carbon monoxide detector (not included) to detect excessive carbon monoxide fumes in the work area and in the surrounding area.

2. **Gasoline fuel and fumes are flammable, and potentially explosive.** Use proper fuel storage and handling procedures. Always have multiple ABC class fire extinguishers nearby.

3. **Keep the Generator, its Engine, and surrounding areas clean at all times.**

4. **When spills of fuel or oil occur, they must be cleaned up immediately.** Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a covered metal container.

5. **Never store fuel or other flammable materials near the Generator.**

6. **Do not smoke, or allow sparks, flames, or other sources of ignition around the Generator.**

7. **Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing.** These events could ignite fumes or vapors.

8. **Do not refill the Fuel Tank while the Engine is running or hot.**

9. **Do not operate the Generator with known leaks in the Engine's fuel system.**

10. **Use only oil and fuel recommended in the "Product Specifications" section of this manual.**

MECHANICAL PRECAUTIONS

1. **Prior to performing service, maintenance, or cleaning procedures, always make sure the Engine Switch is in its "OFF" position.** Allow the Engine to completely cool. Then, remove the Spark Plug Wire from the Spark Plug.

2. **Do not alter or adjust any part of the Generator or its Engine that is assembled and supplied by the manufacturer or distributor.**

3. **Always follow and complete scheduled Engine maintenance.**

CHEMICAL PRECAUTIONS

1. **Avoid contact with hot fuel, oil, exhaust fumes, and solid surfaces.**

2. **Avoid body contact with fuels, oils, and lubricants used in the Engine.** If swallowed, seek immediate medical treatment. Do not induce vomiting if fuel is swallowed. For skin contact, immediately wash with soap and water. For eye contact, immediately flush eyes with clean water.

NOISE PRECAUTION

1. **Prolonged exposure to high noise levels is hazardous to hearing.** Always wear ANSI-approved hearing protection when operating or working around the Generator when it is running.

ELECTRICAL PRECAUTIONS

1. All connections and conduits from the Generator to the load must only be installed by trained and licensed electricians, and in compliance with all relevant local, state,

and federal electrical codes and standards, and other regulations where applicable.

2. The Generator must be earth-grounded in accordance with all relevant electrical codes and standards before operation.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120/240 VOLT)					
NAMEPLATE AMPERES (at full load)	**EXTENSION CORD LENGTH**				
	25'	**50'**	**75'**	**100'**	**150'**
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-
TABLE A	*** Based on limiting the line voltage drop to five volts at 150% of the rated amperes.**				

3. If an extension cord (not included) is used, make sure to use only UL® listed cords having the correct gauge and length. **(See Table A.)**

4. Do not attempt to connect or disconnect load connections while standing in water, or on wet or soggy ground.

5. Do not touch electrically energized parts of the Generator and interconnecting cables or conductors with any part of the body, or with any non-insulated conductive object.

6. Connect the Generator only to a load or electrical system (120 volt or 240 volt) that is compatible with the electrical characteristics and rated capacities of the Generator.

7. Make sure the Engine Switch is in its "OFF" position before moving the Generator and before performing any service, maintenance, or cleaning procedures on the unit.

8. Keep all electrical equipment clean and dry. Replace any wiring where the insulation is cracked, cut, abraded, or otherwise degraded. Replace terminals that are worn, discolored, or corroded. Keep terminals clean and tight.

9. Insulate all connections and disconnected wires.

10. Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.

11. Use only Class BC or Class ABC fire extinguishers on electrical fires.

MISC. PRECAUTION

⚠**WARNING!** The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Symbology

V~	Volts Alternating Current
A	Amperes
n_0 xxxx/min.	No Load Revolutions per Minute (RPM)

UNPACKING

When unpacking, check to make sure all of the parts shown on the Parts List in this manual are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover (and at the bottom of each page) of this manual as soon as possible.

CONTROL PANEL FEATURES

7 7

2

3

5

9

FIGURE A

10B 5 10 5 8

1. **Engine Switch (2):** Used to start and stop the Engine. To start, insert the Engine Switch Key and turn to the right to its **"START"** position. Then immediately release the Key. To turn off the Engine, turn the Key all the way to the left to its **"OFF"** position. Always remove the Key from the Engine Switch when the unit is not in use.
   (See Figure A, previous page.)

2. **Outlet Sockets (8, 10, 10B):** The Generator features three Outlet Sockets with which to power tools and equipment. The type and voltage of the Outlet Sockets are as follows:

   a. **3-Prong, 120 volt Outlet Socket (8)**

   b. **3-Prong, Twistlock, 120 volt Outlet Socket (10)**

   c. **4-Prong, Twistlock, 240/120 volt Outlet Socket (10B)**

   ⚠**WARNING!** Connect tools and equipment only to the Outlet Socket (120 volt or 240 volt) that is compatible with the electrical characteristics and rated capacities of the tools and equipment being used. **(See Figure A.)**

3. **Circuit Breakers (3, 5):** The Generator features **five** Circuit Breakers to protect the unit from overloading.

   a. **One** Circuit Breaker controls the 3-Prong, 120 volt Outlet Socket (8).

   b. **One** Circuit Breaker controls the 3-Prong, Twistlock, 120 volt Outlet Socket (10).

   c. **Two** Circuit Breakers control the 4-Prong, Twistlock, 240/120 volt Outlet Socket (10B).

   d. **One** In-Line Circuit Breaker to protect the Engine's Starter (83A).

   Should any of the four Circuit Breakers "trip", the Engine will automatically shut down. In this event, unplug all loads from the Generator. Allow the Generator to cool down. Then, press the tripped Circuit Breaker and restart the Engine. **(See Figure A.)**

4. **Voltmeters (7):** The Generator features two Voltmeters which provide readings of voltage output depending on which of the three Outlet Sockets (8, 10, 10B) are being used. **(See Figure A.)**

5. **Grounding Terminal (9):** Prior to each use, always connect a ground wire (not included) to the Grounding Terminal to properly ground the Generator.
   (See Figure C, page 11.)

BATTERY INSTALLATION

1. The Engine of the Generator may be started manually or electrically.

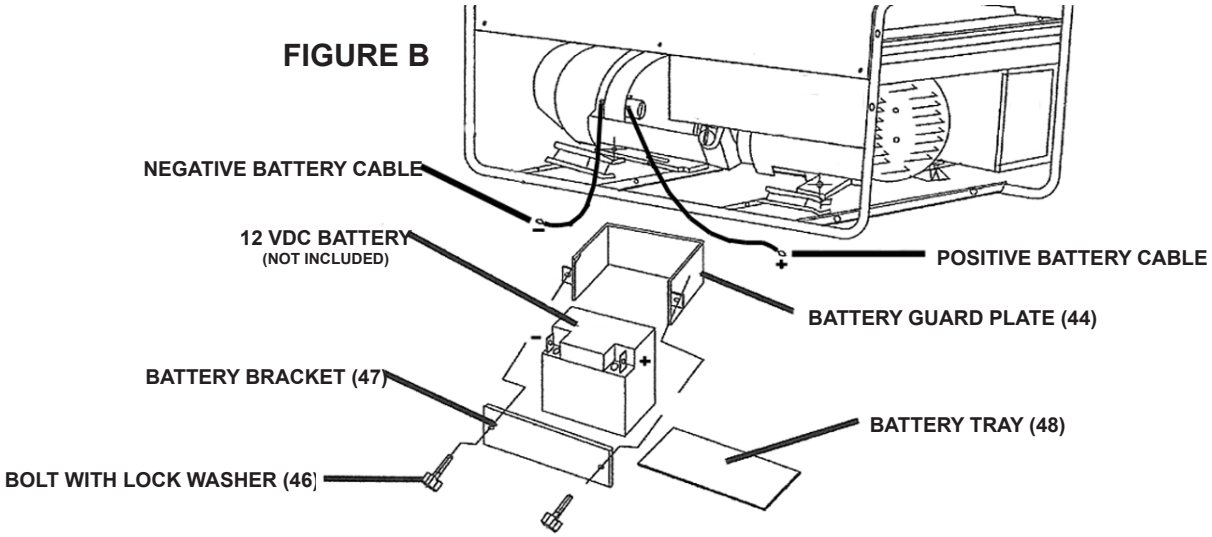
2. To use the Engine's electric start capability, a Battery (45, not included) must first be installed. The type and size Battery required is: **12 volt DC, 7-1/4" long by 3" wide**. **(See Figure B, next page.)**

3. Locate the factory pre-installed Battery Guard Plate (44) and Battery Tray (48) beneath the Control Panel of the Generator. **(See Figure B.)**

4. Slide the Battery into the Battery Guard Plate (44) with the Battery's terminals facing outward and with the Battery's negative (--) terminal facing left. **(See Figure B.)**

5. Align the two mounting holes in the Battery Bracket (47) with the two threaded mounting holes in the Battery Guard Plate (44). Then secure the Battery Bracket to the Battery Guard Plate, using two Bolts with Lock Washers (46). **(See Figure B.)**

FIGURE B



6. Connect the Engine's Positive Battery Cable (RED +) to the Battery's positive (+) terminal. Then connect the Engine's Negative Battery Cable (BLACK --) to the Battery's negative (--) terminal. **(See Figure B.)**

TO ATTACH THE WHEEL ASSEMBLY

1. With additional assistance, and a proper lifting device, raise the left side of the Generator about 6 to 8 inches off the floor surface.

2. Attach the two Axle Brackets (53) to the lower Frame (42), using two Bolts (52) and two Lock Washer Nuts (13) for each Axle Bracket. **(See Assy. Diagram.)**

3. Slide the Axle (49) through the two Axle Brackets (53). **(See Assy. Diagram.)**

4. Insert one Wheel (50) onto each end of the Axle (49). **(See Assy. Diagram.)**

5. Secure the Axle (49) and Wheels (50) in place, using four Pins (51). **(See Assy. Diagram.)**

INSTALLATION INSTRUCTIONS

1. **IMPORTANT:** Electrical and other permits may be required for the installation of emergency or portable power systems. Make sure to investigate the local building and electrical codes before installing this unit.
2. Locate the Generator (outdoors only) where cooling air is readily available. Locate the Generator so that the air inlets and outlets are not blocked by obstructions such as bushes, trees, walls, snow drifts, etc. Locating the Generator in the path of heavy winds may require the placement of a barrier for protection. The air inlet, in normal weather conditions, should face the prevailing wind direction.
3. Locate the Generator on a concrete slab or other area where rain drainage or flood waters can not reach it.
4. Generator placement should allow four feet of access to all sides for maintenance and proper air cooling.
5. Place the Generator as close as possible to the electrical tools and equipment being powered to reduce the length of extension cords.
6. To ground the Generator, connect a #6 AWG grounding wire (not included) from the Grounding Terminal (9) on the Control Panel to a grounding rod (not included) that has been driven at least 24 inches deep into the earth. The grounding rod must be an earth-driven copper or brass rod (electrode) which can adequately ground the Generator. **(See Figure C.)**

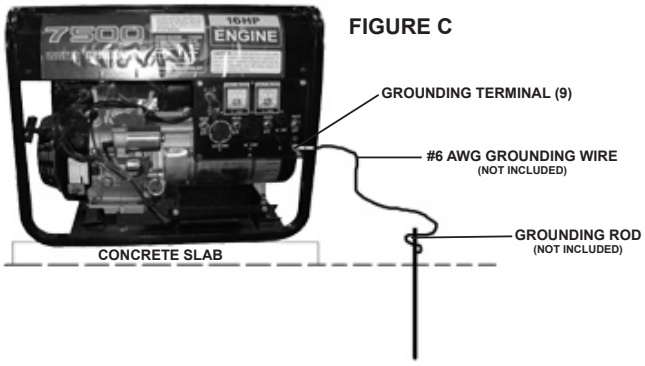


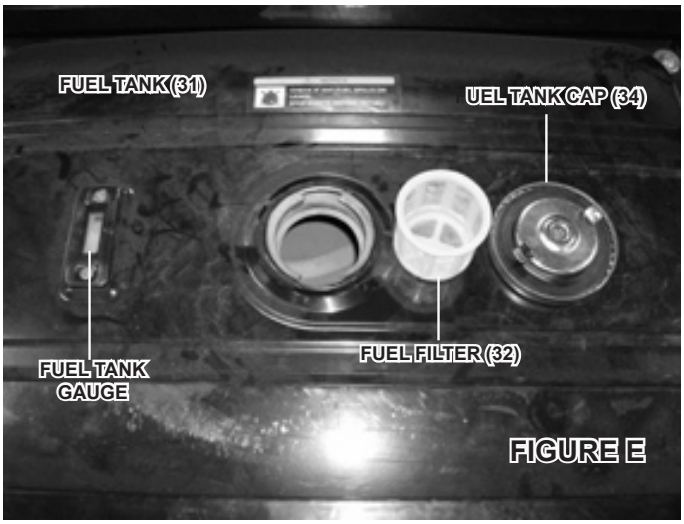
FIGURE C

PRE-START INSTRUCTIONS

1. **IMPORTANT: Your Warranty is voided if you do not put engine oil in the Engine's crankcase prior to its first use.** Before each use, check the oil level. Never run the Engine with low or no engine oil. Running the Engine with no or low engine oil WILL permanently damage the Engine.

2. The Engine MUST be filled with a high quality engine oil. If the Engine will be run in temperatures above 32 degrees Fahrenheit, use **SAE 30 weight** oil. If the Engine will be run in temperatures below 32 degrees Fahrenheit, use **SAE 5W-30 weight** oil.

3. To add engine oil, unscrew and remove the Oil Dipstick (65A). Pour engine oil into the Dipstick Hole until the level of oil is even with the top edge of the Dipstick Hole. Then, make sure to screw the Oil Dipstick back into its Dipstick Hole. **(See Figure D.)**



4. To fill the Fuel Tank (31), unscrew and remove the Fuel Tank Cap (34). Fill the Fuel Tank with **mid-to-high octane unleaded gasoline**. Then replace the Fuel Tank Cap. Thereafter, check the Fuel Tank Gauge for the amount of unleaded gasoline. When necessary, refill the Fuel Tank. **(See Figure E.)**

5. Periodically, check the Fuel Filter (32) for excessive dirt and debris. If necessary, remove the Fuel Filter and clean with compressed air. **(See Figure E.)**

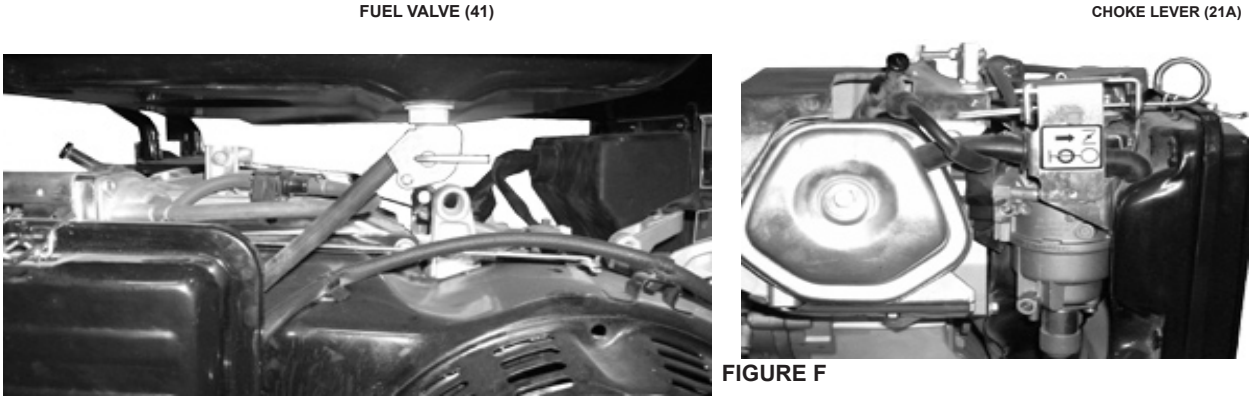


FIGURE F

OPERATING INSTRUCTIONS

1. Check to make sure the Engine Switch (2) is in its **"OFF"** position. **(See Figure A.)**

2. **IMPORTANT:** Make sure to unplug any load from the Generator before starting to prevent permanent damage to any appliances, tools, or equipment.

3. Turn the Engine Fuel Valve (41) to its **"OPEN"** position. Then turn the Engine Choke Lever (21A) to its **"CHOKE"** position. No choke is required if the Engine is warm. Make sure the Choke Lever is in the **"RUN"** position when starting a warm Engine. **(See Figure F.)**

4. To start the Engine, using the Battery (45) for cranking power, insert the Engine Switch Key into the Engine Switch (2). Then turn the Key to the **"START"** position. **NOTE:** To prolong Starter life, use short starting cycles (5 seconds maximum). Then wait one minute before attempting to start again. **(See Figure A.)**

5. To start the Engine manually, using the Starter Handle (41A), insert the Engine Switch Key and turn the Key to its **"RUN"** position. Grasp the Starter Handle, and pull slowly until resistance is felt. Allow the Starter Rope to rewind slowly. Then, pull the Starter Handle with a rapid, full arm stroke. Allow the Rope to rewind slowly. If necessary, repeat this procedure until the Engine starts.

6. When the Engine starts, slowly move the Choke Lever (21A) to its **"RUN"** position. **(See Figure F.)**

7. **IMPORTANT:** Allow the Generator to run at no load for five minutes after each start-up so that the Engine and Generator can stabilize.

TO CONNECT ELECTRICAL LOADS

1. Start the Engine, and allow the Engine and Generator to run and warm up for five minutes after starting with no electrical load.

2. ⚠**WARNING!** Connect 120 VAC appliances, tools, and equipment only to the two 120 VAC Outlet Sockets (8, 10). Connect 240 VAC appliances, tools, and equipment only to the one 240 VAC Outlet Socket (10B). **(See Figure A.)**

3. ⚠**CAUTION!** Never exceed the rated capacity for this Generator, as serious damage to the Generator and/or appliances, tools, and equipment could result from an overload. Starting and running wattage requirements should always be calculated when matching this Generator's wattage capacity to the appliance, tool, or equipment.

4. Most appliances, tools, and equipment will list on the motor nameplate the starting and running voltage and amperage requirements. Use the following formula to convert voltage and amperage to wattage:

a. **Volts x Amps = Watts (example: 120 Volts x 3 Amps = 360 Watts)**

b. To determine the approximate wattage requirement for most appliances, tools, and equipment with “inductive” type motors, multiply the wattage that was calculated by 2 times to assure adequate Generator capacity.

c. The starting and running wattage for “resistant” loads are the same. Example: a 100 watt light bulb requires only 100 watts to turn on. Most resistant loads will be listed in wattage.

5. Always power the largest electric motor first. The, plug in other appliances, tools, and equipment.

a. Connect “inductive” load appliances, tools, and equipment first. Inductive loads consist of small hand tools and some small appliances. Connect the items that require the most wattage first.

b. Connect any lights next.

c. Voltage sensitive appliances, tools, and equipment should be the last to be connected to the Generator. Plug voltage sensitive items such as T.V.’s, VCR’s, microwaves, and cordless telephones into a UL® Listed voltage surge protector (not included). Then, connect the surge protector into the Generator.

6. **IMPORTANT!** Failure to connect and operate appliances, tools, and equipment in this sequence can cause damage to the Generator, appliances, tools, and equipment and will **void** the Warranty of this Generator.

7. Once the Engine is running, simply connect the 120 VAC appliances, tools, and equipment into the 120 VAC Outlet Sockets (8, 10). Also, connect a 240 VAC appliance, tool, or equipment into the 240 VAC Outlet Socket (10B). **(See Figure A.)**

8. **NOTE:** If Engine speed or voltage fluctuates with a load below 250 watts, move the Engine Choke Lever (21A) to the **“HALF-CHOKE”** position. **(See Figure F.)**

9. When finished using the Generator, disconnect all electrical loads. Turn the Engine Switch (2) to its **“OFF”** position to stop the Engine. Then, close the Engine Fuel Valve (41). **(See Figures A and F.)**

10. Allow the Generator and its Engine to completely cool. Then store the unit in a clean, dry, safe location out of reach of children and other unauthorized people.

INSPECTION, MAINTENANCE, AND CLEANING

1. ⚠**WARNING!** Always make sure the Engine Switch (2) is in its ‘OFF” position and the Spark Plug Wire is removed from the Spark Plug (28A) prior to performing any inspection, maintenance, or cleaning procedures.

2. **Before each use:** Inspect the general condition of the Generator and its Engine. Check for loose screws, misalignment or binding of moving parts, cracked or

broken parts, loose hose connections, and any other condition that may affect the safe operation of the unit. If abnormal noise or vibration occurs, have the problem corrected before further use.

GENERATOR MAINTENANCE

1. Keep the Generator clean and dry at all times.
2. The Generator should not be operated or stored in locations that include excessive moisture, dust, flammable or corrosive vapors. If these substances are on the Generator, clean with a soft cloth or brush.
3. Do not use a garden hose or anything with liquid to clean the Generator. Liquid may enter the cooling air slots and could damage the interior workings of the Generator.

ENGINE MAINTENANCE

1. **After the first 5 to 8 hours of use:** Change the oil. Then, change the oil every 50 hours of use. Change the oil every 25 hours of use when operating the Engine under a heavy load or in high temperatures.

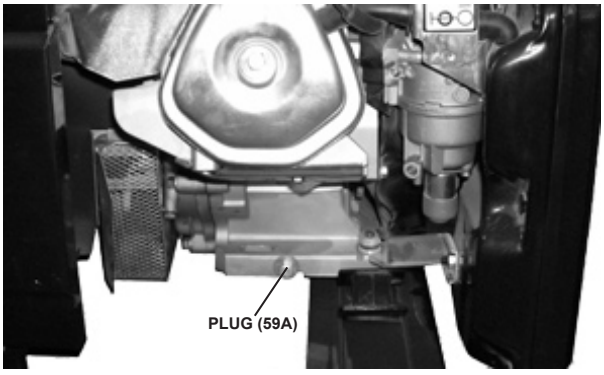
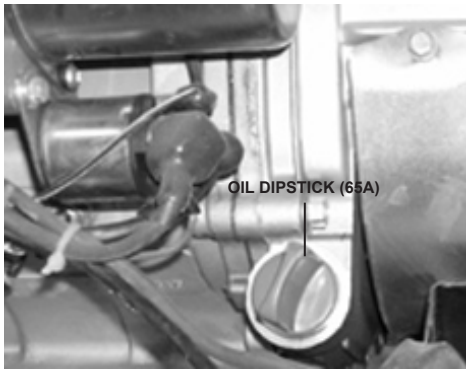


FIGURE G



2. To change the oil, remove the Plug (59A) and allow the old oil to drain in a proper container. Once drained, replace the Plug. **(See Figure G.)**
3. **NOTE:** If the Engine will be run in temperatures above 32 degrees Fahrenheit, use **SAE 30** weight oil. If the Engine will be run in temperatures below 32 degrees Fahrenheit, use **SAE 5W-30** weight oil.
4. To add engine oil, unscrew and remove the Oil Dipstick (65A). Pour engine oil into the Dipstick Hole until the level of oil is even with the top edge of the Dipstick Hole. Then, make sure to screw the Oil Dipstick back into its Dipstick Hole. **(See Figure G.)**

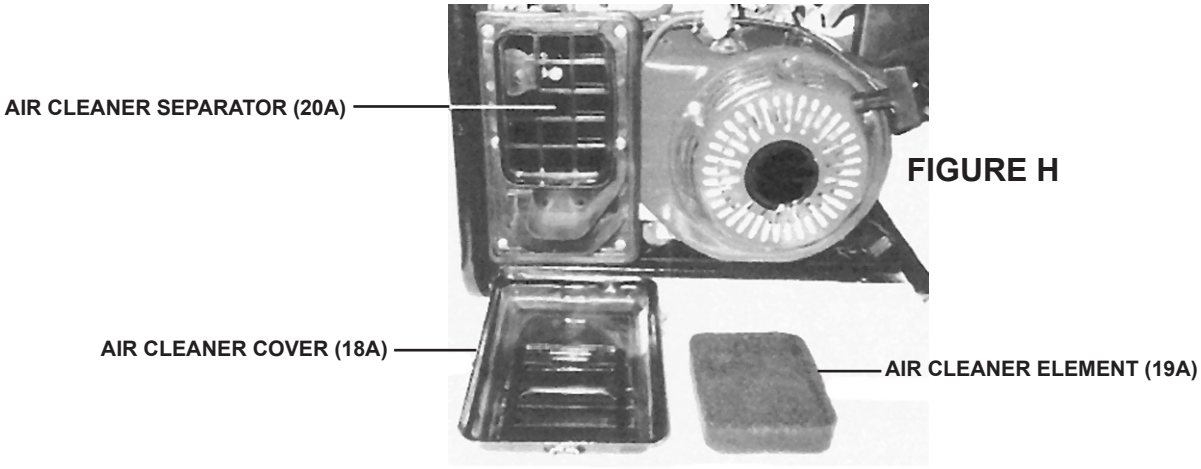


FIGURE H

5. **After every 25 hours of use:** Service the Air Cleaner Element (19A) and Air Cleaner Separator (20A). **(See Figure H.)**

6. To do so, remove the Air Cleaner Cover (18A). Remove the Air Cleaner Element (19A). Immerse the Air Cleaner Element in a mild solvent and squeeze the Element several times to clean. Remove the Element from the solvent and squeeze thoroughly to dry. Then, squirt several drops of a light weight oil into the Element and squeeze the Element so oil reaches all parts of the Element. **(See Figure H.)**

7. Use compressed air to clean the Air Element Separator (20A). Then replace the Air Element Separator, Air Cleaner Element, and Air Cleaner Cover (18A). **(See Figure H.)**

8. Clean more often under dusty conditions or when airborne debris is present. Replace Air Cleaner parts if necessary. **(See Figure H.)**

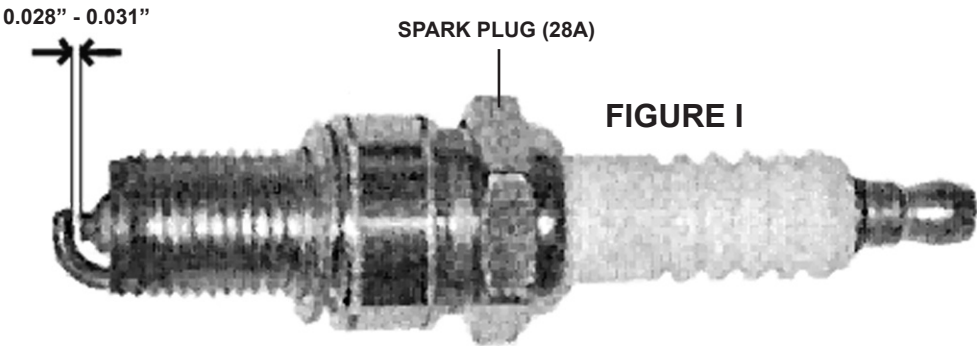


FIGURE I

9. **After every 100 hours of use:** Clean and re-gap the Spark Plug (28A). **(See Figure I.)**

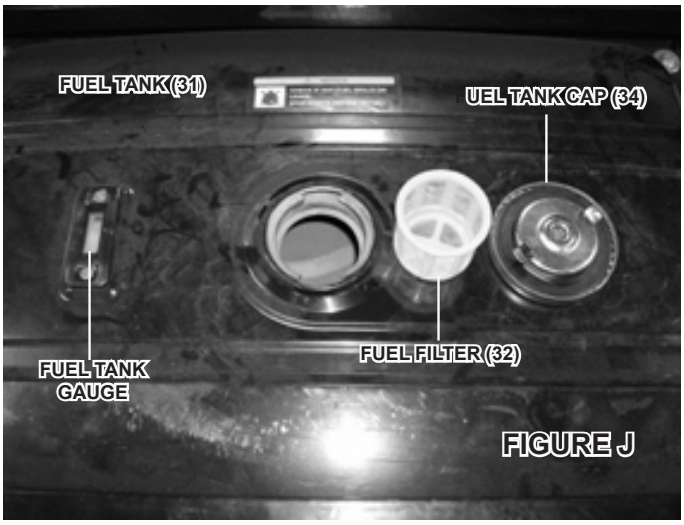
10. To do so, use a 13/16" spark plug wrench (not included) to remove the Spark Plug.

11. Use a fine-grade sandpaper to clean off carbon build-up from the electrodes of the Spark Plug (28A). Clean with compressed air to remove residue. **(See Figure I.)**

12. Measure the electrode gap with a suitable gauge. The gap should be **0.028" to 0.031"**. If necessary, correct the gap by carefully bending the side of the electrode.
(See Figure I.)

13. Reinstall the Spark Plug (28A) carefully to avoid cross-threading. **(See Figure I.)**

14. **Daily:** Inspect the Fuel Filter (32).



15. To do so, remove the Fuel Tank Cap (34) from the Fuel Tank (31).
(See Figure J.)

16. If necessary, use compressed air to remove any dirt and debris from the Fuel Filter (32). Then replace the Fuel Filter and Fuel Tank Cap (34). **(See Figure J.)**

When storing the Generator for extended periods: Before storing, drain all fuel out of the Engine's Fuel Tank (31). If this is not followed, old fuel in the Fuel Tank may clog the Carburetor of the Engine and prevent it from starting until cleaned out. **Then make sure to store the unit in a clean, dry, safe location out of reach of children and other unauthorized people.**

PLEASE READ THE FOLLOWING

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Engine will not start.	1. Low on fuel or oil.	1. Add fuel or oil.
	2. Engine power switch is in the OFF position.	2. Turn engine power switch to the ON position.
	3. Faulty spark plug.	3. Replace spark plug.
	4. Choke in wrong position.	4. Properly adjust choke.
	5. Fuel valve lever in CLOSED position.	5. Turn fuel valve lever to OPEN position.
	6. Generator loaded during start-up.	6. Remove load from Generator.
	7. Spark plug wire loose.	7. Attach wire to spark plug.
	8. Fuel line clogged.	8. Clean fuel line and fuel filter.
	9. Faulty ignition system.	9. Have a qualified technician check ignition system.
No electrical output.	1. Faulty outlet.	1. Have a qualified technician check outlets.
	2. Circuit breaker tripped.	2. Depress circuit breaker and reset.
	3. Defective capacitor.	3. Have a qualified technician check capacitor.
	4. Faulty power cord.	4. Repair or replace cord.
Repeated circuit breaker tripping.	1. Overload.	1. Reduce load.
	2. Faulty cords or equipment.	2. Check for damaged, bare, or frayed wires on equipment. Repair or replace.
Generator overheating.	1. Generator overloaded.	1. Reduce load.
	2. Insufficient ventilation.	2. Move to adequate supply of fresh air.

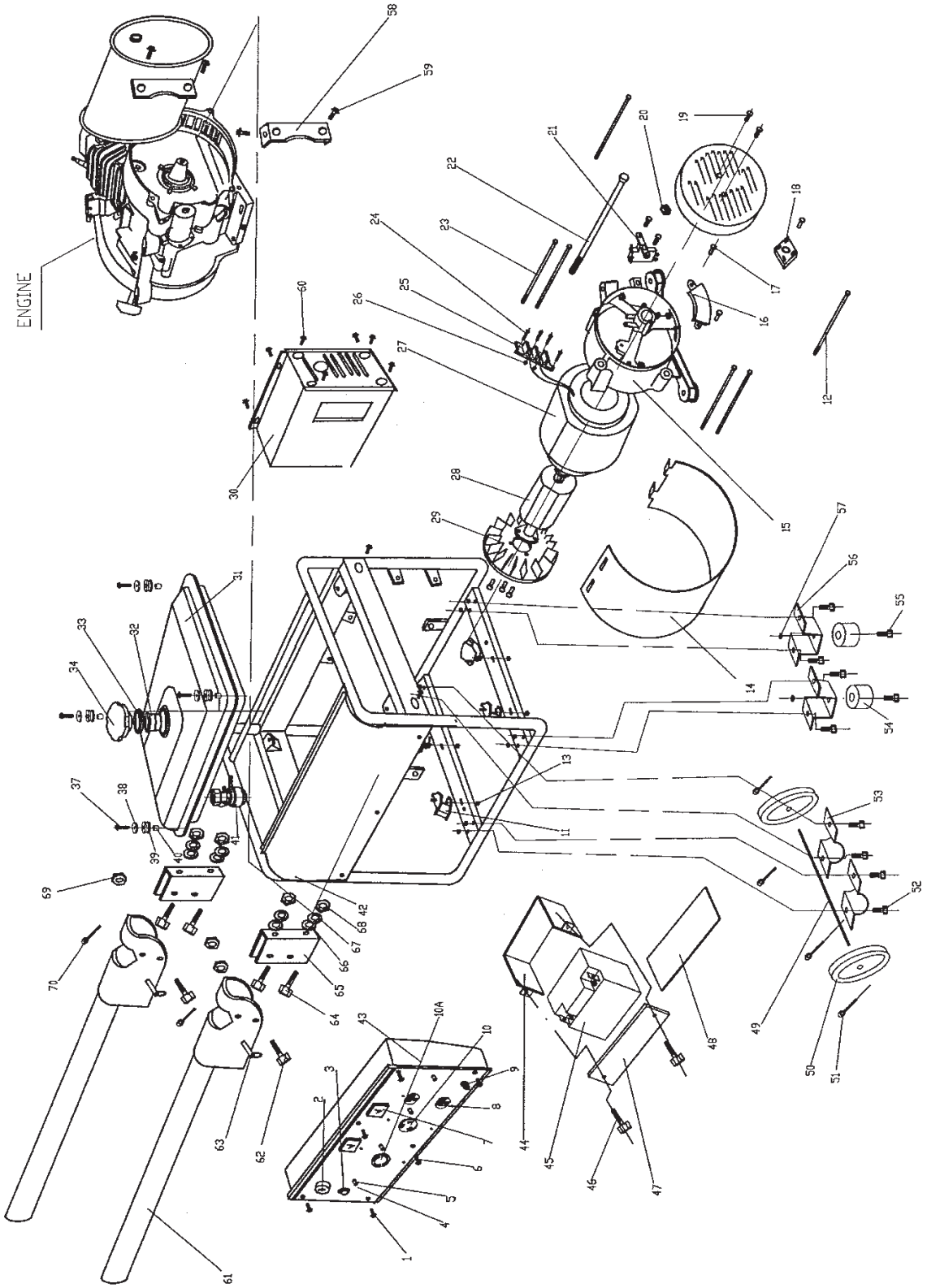
PARTS LIST - GENERATOR

Part	Description	Qty.
1	Bolt w/Lock Washer (M6x12)	4
2	Engine Switch	1
3	Circuit Breaker (30 Amp)	1
4	Control Panel	1
5	Circuit Breaker (20 Amp)	4
6	Bolt (M5x12)	2
7	Voltmeter	2
8	Outlet Socket (120V)	2
9	Grounding Terminal	1
10	Outlet Socket (120V)	1
10B	Outlet Socket (240V/120V)	1
11	Shock Absorber	4
12	Bolt (M5x215)	2
13	Lock Washer Nut (M8)	12
14	Stator Cover	1
15	Alternator Back Cover	1
16	Automatic Voltage Regulator	1
17	Bolt (M5x12)	7
18	Rectifier	1
19	Bolt (M5x20)	2
20	Cable Sheath	1
21	Carbon Brush	1
22	Bolt (M10x1.25x265)	1
23	Bolt (M6x180)	4
24	Bolt (M5x20)	4
25	Connection Board	1
26	Nut (M5)	4
27	Stator	1
28	Rotor	1
29	Cooling Fan	1
30	Heat Insulation Board Assy.	1
31	Fuel Tank	1
32	Fuel Filter	1
33	Seal Ring	1
34	Fuel Tank Cap	1
37	Lock Washer Bolt (M6x30)	4

Part	Description	Qty.
38	Spacer	4
39	Rub Washer	4
40	Bushing	4
41	Fuel Valve	1
42	Frame	1
43	Switch Box Cover	1
44	Battery Guard Plate	1
45	Battery (Not Included)	1
46	Bolt w/Lock Washer (M6x12)	2
47	Battery Bracket	1
48	Battery Tray	1
49	Axle	1
50	Wheel	2
51	Pin	4
52	Bolt (M8x20)	8
53	Axle Bracket	2
54	Shock Absorbing Foot	2
55	Bolt (M8x25)	2
56	Bracket	2
57	Nut (M8)	2
58	Connection Board (Muffler)	1
59	Bolt (M8x20)	4
60	Bolt w/Lock Washer (M6x12)	8
61	Handle	2
62	Bolt (M8x45)	2
63	Pin (8x45)	2
64	Bolt (M6x45)	4
65	Link	2
66	Washer (M6)	4
67	Lock Washer	4
68	Nut (M6)	4
69	Nut (M8)	2
70	Pin (2x20)	2

NOTE:
Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

ASSEMBLY DIAGRAM - GENERATOR



PARTS LIST - ENGINE

Part	Description	Qty.
1A	Muffler	1
2A	Cylinder Head Bolt	4
3A	Cylinder Head Cover Bolt	4
4A	Cylinder Head Cover	1
5A	Lock Nut	2
6A	Adjusting Screw	2
7A	Rocker Arm	3
8A	Rocker Arm Bolt	2
9A	Valve Push Rod Guide Board	1
10A	Valve Push Rod	2
11A	Cylinder Head	1
12A	Carburetor Shield	1
13A	Carburetor Packing	1
14A	Carburetor Assy.	1
15A	Air Cleaner Case	1
16A	Air Cleaner Seal	1
17A	Bolt (M6)	4
18A	Air Cleaner Cover	1
19A	Air Cleaner Element	1
20A	Air Cleaner Separator	1
21A	Choke Lever	1
22A	Carburetor Packing (II)	1
23A	Stud Bolt (M6x109)	2
24A	Intake Valve	1
25A	Exhaust Valve	1
26A	Cylinder Head Gasket	1
27A	Exhaust Pipe Stud	2
28A	Spark Plug	1
29A	Valve Guide	2
30A	Valve Spring	2
31A	Rocker Shaft Circlip	2
32A	Anti-Wear Valve Stem Protector	2
33A	Cylinder Head Cover Packing	1
34A	Governor Spring	1
35A	Bolt	1
36A	High Tension Line	1
37A	Ignition Coil	1
38A	Nut (Special 14mm)	1

Part	Description	Qty.
39A	Starter Ratchet Spring	2
40A	Starter Rope	1
41A	Starter Handle	1
42A	Recoil Starter	1
43A	Spiral Spring	1
44A	Starter Wheel	1
45A	Circlip	1
46A	Starter Ratchet	2
47A	Friction Plate Screw	1
48A	Cover	1
49A	Starter Pulley	1
50A	Cooling Fan	1
51A	Flywheel Magneto	1
52A	Cylinder Block	1
53A	Speed Control Lever	1
54A	Governor Arm	1
55A	Governor Spring	1
56A	Governor Support	1
57A	Bolt (M6x15)	2
58A	Oil Alert Nut	1
59A	Plug (M10x15)	2
60A	Plug Washer	2
61A	Oil Alert	1
62A	Bolt (M6)	2
63A	Crankshaft	1
64A	Crankshaft Gear	1
65A	Oil Dipstick	2
66A	Oil Dipstick Seal Ring	2
68A	Bolt (M8x35)	1
69A	Gear Case Packing	6
70A	Bearing	2
71A	Camshaft Assy.	1
72A	Locating Pin	4
73A	Oil Seal	2
74A	Connecting Rod Bolt	2
75A	Connecting Rod Cap	1
76A	Connecting Rod	1
77A	Piston	1

PARTS LIST - ENGINE (CONT.)

Part	Description	Qty.
78A	Compression Ring (I)	1
79A	Compression Ring (II)	1
80A	Oil Scraper Ring	1
81A	Piston Pin	1
82A	Piston Pin Circlip	1

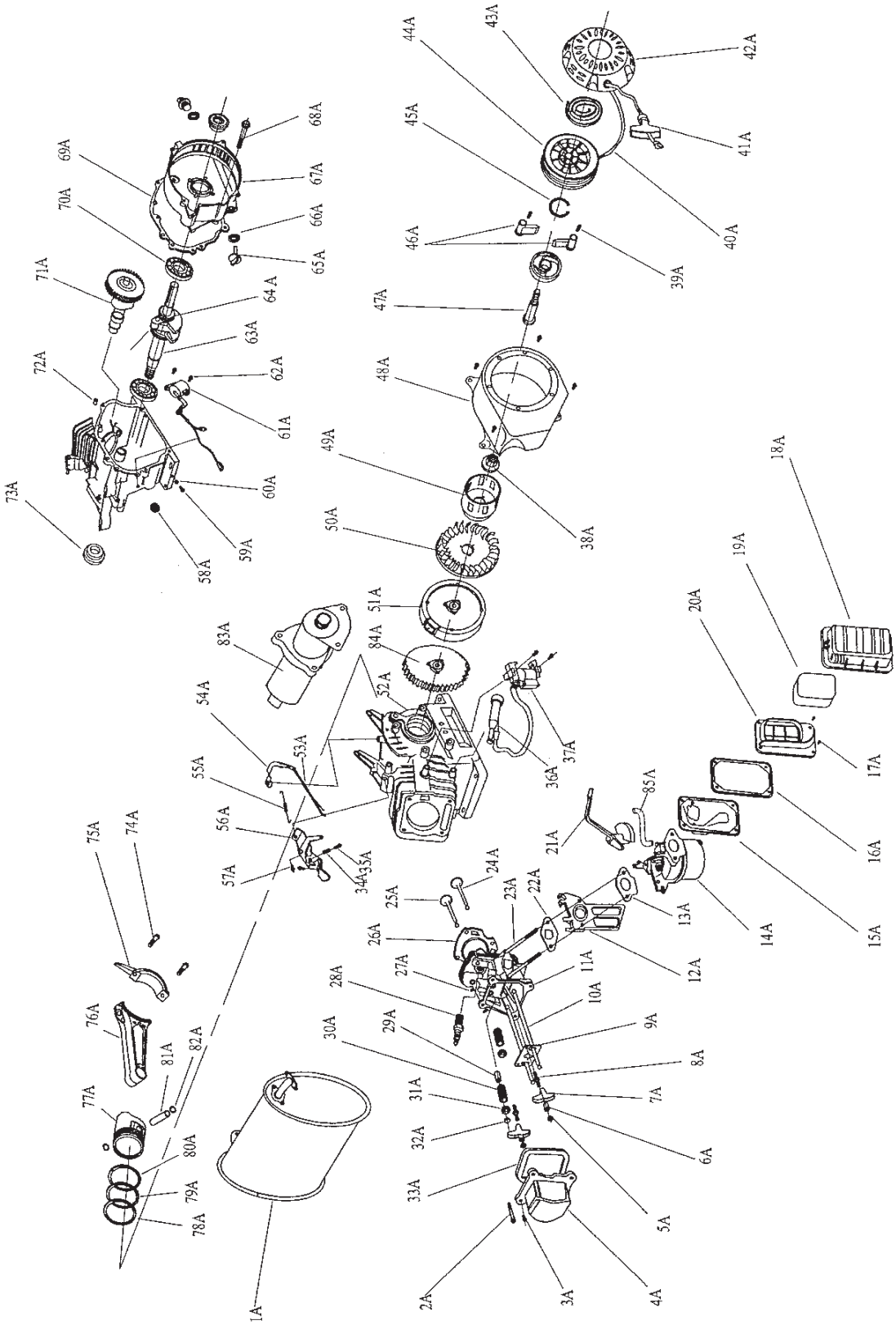
Part	Description	Qty.
83A	Starter	1
84A	Gear	1
85A	Fuel Pipe	1

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

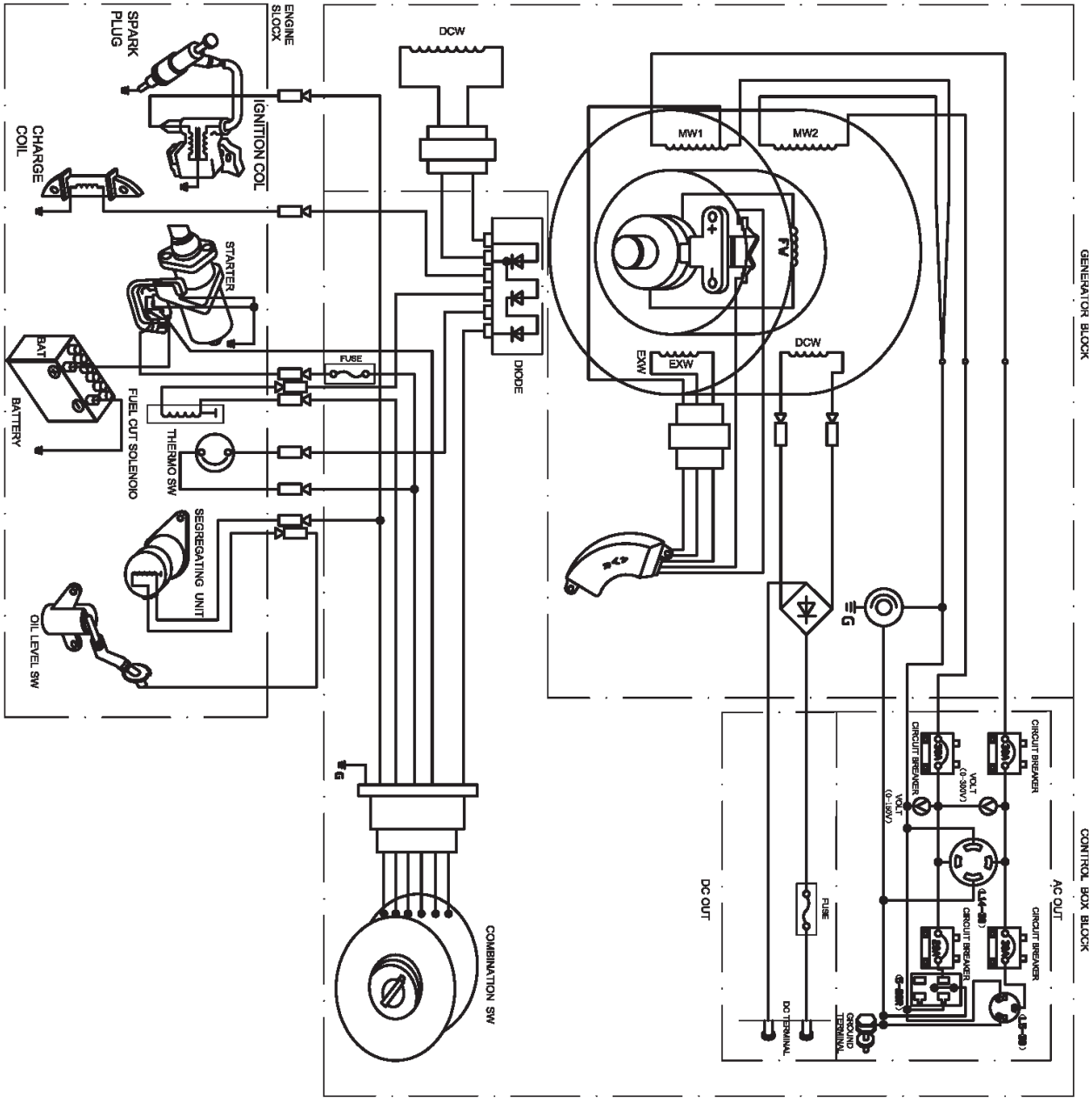
Record Product's Serial Number Here:_____

Note: If product has no serial number, record month and year of purchase instead.

ASSEMBLY DIAGRAM -ENGINE



WIRING DIAGRAM



LIMITED 1 YEAR / 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that for a period of ninety days from date of purchase that the engine/motor, the belts (if so equipped), and the blades (if so equipped) are free of defects in materials and workmanship. Harbor Freight Tools also warrants to the original purchaser, for a period of one year from date of purchase, that all other parts and components of the product are free from defects in materials and workmanship (90 days if used by a professional contractor or if used as rental equipment). This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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EMISSION CONTROL SYSTEM WARRANTY

California and United States Emission Control Defects Warranty Statement

The California Air Resources Board (herein CARB), the United States Environmental Protection Agency (herein EPA), and Harbor Freight Tools (herein HFT) are pleased to explain the emission control system warranty on your 1995 and later Small Off-Road Engine (herein engine). In California, the engine must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere within the United States, new off-road, spark-ignition engines certified for model year 1997 and later, must meet similar standards set forth by the EPA. HFT must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor or fuel-injection system, and the ignition system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, HFT will repair your engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage

The 1995 and later engines are warranted for two (2) years. If any emission-related part on your engine is defective, the part will be repaired or replaced by HFT.

EMISSION CONTROL SYSTEM WARRANTY (CONT.)

Harbor Freight Tools Emission Control Defects Warranty Coverage

Engines are warranted for a period of two (2) years relative to emission control parts defects, subject to the provisions set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by HFT.

1. Owner's Warranty Responsibilities

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. HFT recommends that you retain all receipts covering maintenance on your engine, but HFT cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should, however, be aware that HFT may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for shipping your engine to a HFT warranty station as soon as a problem exists. Contact the HFT Customer Service department at the number below to make shipping arrangements. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact the Harbor Freight Tools Customer Service Department at 1-800-444-3353.

Harbor Freight Tools Emission Control Defects Warranty Provisions

2. 1. Length of Coverage

HFT warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of warranted parts for a period of two (2) years after the date of delivery to the first retail purchaser.

3. 2. No Charge Repair or Replacement

Repair or replacement of any warranted part will be performed at no charge to the owner if the work is performed through a warranty station authorized by HFT. For emissions warranty service, contact the HFT Customer Service Department at 1-800-444-3353.

4. 3. Consequential Damages Coverage

Coverage under this warranty shall also extend to the failure of any engine components caused by the failure of any warranted part while it is still covered under this warranty.

5. 4. Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the HFT warranty policy explained in the box at the top of the previous page. HFT shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time, or inconvenience. Warranty coverage shall also be excluded for any part which fails, malfunctions, or is damaged due to failure to follow the maintenance and operating instructions set forth in the Owner's Manual including, but not limited to:

a) Use of parts which are not authorized by HFT

b) Improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized warranty center

c) Failure to follow recommendations on fuel use contained in the Owner's Manual

d) Improper or inadequate maintenance of any warranted parts

e) Repairs performed outside of the authorized warranty service dealers

f) Alterations by changing, adding to or removing parts from the engine.

6. 5. Service and Maintenance

Component parts which are not scheduled for replacement as required maintenance or are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part. Any replacement part, provided it is equivalent in durability and performance, may be used in performance of maintenance or repairs. The owner is responsible for commissioning a qualified technician/mechanic to perform all required maintenance, as outlined in the Inspection, Cleaning, and Maintenance section in this manual.

EMISSION CONTROL SYSTEM WARRANTY (CONT.)

7. 6. Warranted Parts

1) Fuel Metering System

i) Carburetor and its internal parts.

ii) Fuel pump (if so equipped).

iii) Cold start enrichment system.

2) Air Induction System

i) Intake pipe/manifold.

ii) Air cleaner.

3) Ignition System

i) Spark plug.

ii) Magneto ignition system.

4) Catalyst System (if so equipped)

i) Exhaust pipe stud.

ii) Muffler.

iii) Catalytic converter (if so equipped).

5) Miscellaneous Items Used in Above Systems

i) Vacuum, temperature and time sensitive valves and switches.

ii) Hoses, belts, connectors, and assemblies.